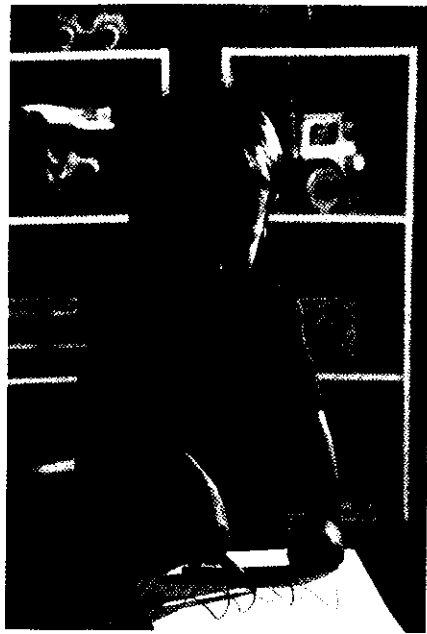


Milestones

Development in Early Childhood



2 years

PHYSICAL

- Throughout early childhood, height and weight increase more slowly than in toddlerhood. (293)
- Balance improves; walking becomes smooth and rhythmic; running emerges. (312)
- Jumps, hops, throws, and catches with rigid upper body. (312)
- Puts on and removes simple items of clothing. (313)
- Uses spoon effectively. (313)
- First drawings are gestural scribbles. (313)

COGNITIVE

- Make-believe becomes less dependent on realistic objects, less self-centered, and more complex; sociodramatic play increases. (322-323)
- Can take the perspective of others in simplified situations. (326-327)
- Recognition memory is well developed. (339)
- Shows awareness of the difference between inner mental and outer physical events. (342)
- Begins to count. (348)

LANGUAGE

- Vocabulary increases rapidly. (356)
- Coins new words based on known words. (357)
- Sentences follow basic word order of native language; adds grammatical markers piecemeal. (358)
- Displays effective conversational skills. (359)

EMOTIONAL/SOCIAL

- I-self becomes more firmly established, and focus shifts to the me-self. (336)
- Begins to develop self-concept and self-esteem. (367, 368-369)
- Throughout early childhood, emotional competence improves. (369)
- Understands causes, consequences, and behavioral signs of basic emotions. (370)
- Shows early indicators of developing moral sense—verbal evaluations of their own and others' actions and distress at harmful behaviors. (380)
- Instrumental aggression emerges. (387)
- Gender-stereotyped beliefs and behavior increase. (391)



3-4 years

PHYSICAL

- Rapid synaptic growth and myelination of neural fibers in the brain continue, especially in the frontal lobes. (296)
- May no longer need a daytime nap. (302)
- Running, jumping, hopping, throwing, and catching become more refined, with increasingly flexible upper body. (312)
- Galloping and one-foot skipping appear. (312)

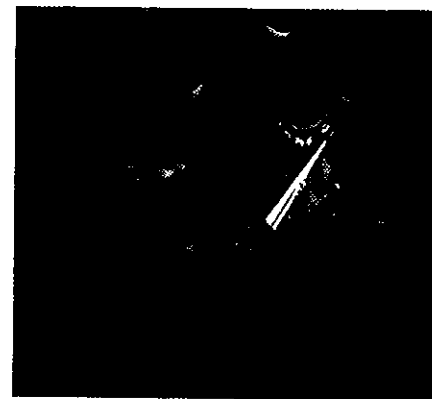
- Pedals and steers tricycle. (312)
- Uses scissors. (312)
- Uses fork adeptly. (313)
- Draws first picture of a person, using tadpole image. (314)
- Distinguishes writing from nonwriting. (316)

COGNITIVE

- Masters dual representation. (324)
- Notices and reasons about conservation and transformations, can reverse thinking, and has a basic understanding of many cause-and-effect relationships. (328)
- Hierarchically organizes instances of familiar categories. (329-330)
- Distinguishes appearance from reality. (331)
- Uses private speech to guide behavior during challenging tasks. (334)
- Sustained attention and planning improve. (338-339)
- Uses scripts to recall familiar experiences. (340)
- Understands that both beliefs and desires determine behavior. (342)
- Shows awareness of some meaningful features of written language. (346)
- Knows meaning of numbers to ten, counts correctly, and grasps cardinality. (348)

LANGUAGE

- Extends language meanings through metaphor. (357)
- Applies basic subject-verb-object structure broadly, to new verbs. (358)
- Masters increasingly complex grammatical structures. (358)



- Occasionally overextends grammatical rules to exceptions. (358)
- Adjusts speech to fit the age, sex, and social status of listeners. (360)



EMOTIONAL/SOCIAL

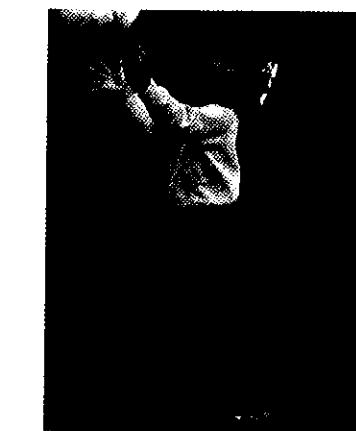
- Adds typical emotions and attitudes to observable characteristics in self-concept. (367)
- Has several self-esteems, such as learning things in school, making friends, and getting along with parents. (368)
- Emotional self-regulation improves, with strategy use and effortful control. (371)
- Experiences self-conscious emotions more often. (372)
- Empathic responding increases. (373)
- Engages in interactive play (associative and cooperative) in addition to nonsocial activity and parallel play. (374)
- Instrumental aggression declines, while hostile aggression (verbal and relational) increases. (387)
- Forms first friendships. (376)
- Distinguishes moral imperatives from social-conventions and personal choices. (382)
- Preference for same-sex playmates strengthens. (394-395)



5-6 years

PHYSICAL

- Body is streamlined and longer-legged with proportions similar to adults'. (294)
- Starts to lose primary teeth. (294)
- Brain reaches 90 percent of its adult weight. (296)
- Gross motor skills increase in speed and endurance. (312)
- Gallops more smoothly and engages in true skipping. (312)
- Displays mature, flexible throwing and catching pattern. (312)



- Uses knife to cut soft foods. (313)
- Ties shoes. (313)
- Draws more complex pictures. (314)
- Uses an adult pencil grip, writes name, copies some numbers and simple words, and can discriminate letters of the alphabet. (315-316)

COGNITIVE

- Magical beliefs decline. (327)
- Ability to distinguish appearance from reality improves. (331)
- Attention and planning continue to improve. (338-339)
- Recognition, recall, scripted memory, and autobiographical memory improve. (339-340)
- Understanding of false belief strengthens. (343)
- Understands that letters and sounds are linked in systematic ways. (346)
- Experiments with strategies to solve simple arithmetic problems. (348)

LANGUAGE

- Vocabulary reaches about 10,000 words. (356)
- Uses most grammatical constructions competently. (359)



EMOTIONAL/SOCIAL

- Emotional understanding (ability to interpret, predict, and influence others' emotional reactions) improves. (370)
- Becomes better at social problem solving. (377-378)
- Has acquired many morally relevant rules and behaviors. (380-381)
- Gender-stereotyped beliefs and behavior continue to increase; preference for same-sex playmates increases further. (395)
- Understands gender constancy. (396)



Note: Numbers in parentheses indicate the page or pages on which each milestone is discussed.

Milestones

Development in Middle Childhood



6-8 years

PHYSICAL

- Slow gains in height and weight continue until adolescent growth spurt. (412)
- Permanent teeth gradually replace primary teeth. (414)
- Lateralization of the cerebral hemispheres increases; brain plasticity declines. (414)
- Writing becomes smaller and more legible; cursive writing is mastered. (428)
- Drawings become more organized and detailed and include some depth cues. (428)
- Games with rules and rough-and-tumble play become common. (430-431)
- Dominance hierarchies become more stable, especially among boys. (432)

COGNITIVE

- Thought becomes more logical, as shown by the ability to pass Piagetian conservation, class inclusion, and seriation problems. (437-438)
- Spatial reasoning improves, as illustrated by the ability to give clear, well-organized directions and draw coherent cognitive maps. (438-439)
- Attention becomes more selective, adaptable, and planful. (443)
- Uses memory strategies of rehearsal and then organization. (445-446)
- Views the mind as an active, constructive agent, capable of transforming information. (447)

- Awareness of memory strategies and the impact of psychological factors (such as focusing attention) on task performance improves. (447-448)
- Appreciates second-order false beliefs. (447-448)
- By the end of this period, makes the transition from "learning to read" to "reading to learn." (450)
- Uses informal knowledge of number concepts and counting to master more complex mathematical skills. (450-451)

LANGUAGE

- Vocabulary increases rapidly throughout middle childhood, eventually exceeding 40,000 words. (462)
- Word definitions are concrete, referring to functions and appearance. (462)
- Narratives gradually increase in organization, detail, and expressiveness. (463)
- Metalinguistic awareness improves. (462-464)

EMOTIONAL/SOCIAL

- Self-concept begins to include personality traits and social comparisons. (482-483)
- Self-esteem differentiates, is hierarchically organized, and declines to a more realistic level. (484-485)
- Self-conscious emotions of pride and guilt are governed by personal responsibility. (489)
- Explains emotion by referring to internal states. (490)
- Recognizes that individuals can experience more than one emotion at a time. (490)



- Attends to more cues (facial, situational, and past experiences) in interpreting another's feelings. (490)
- Understands that people may have different perspectives because they have access to different information. (491-492)
- Becomes more independent, trustworthy, and responsible. (492)
- Distributive justice reasoning changes from equality to merit to equity and benevolence. (492, 496)
- Peer interaction becomes more prosocial, and physical aggression declines. (497)



9-11 years

PHYSICAL

- Adolescent growth spurt begins two years earlier in girls than in boys. (412)
- Brain weight increases by 10 percent during middle childhood and adolescence. (414)
- Executes gross motor skills of running, jumping, throwing, catching, kicking, batting, and dribbling more quickly and with better coordination. (427-428)
- Reaction time improves, contributing to motor skill development. (428)
- Representation of depth in drawings expands. (428)



COGNITIVE

- Spatial reasoning improves further, as illustrated by direction-giving and map-drawing. (438)
- Continues to master Piagetian tasks in a step-by-step fashion. (439)
- Selective attention and planning improve further. (443)
- Uses memory strategies of rehearsal and organization more effectively. (445-446)
- Applies several memory strategies at once and begins to use elaboration. (446)
- Long-term knowledge base grows larger and becomes better organized. (446)
- Cognitive self-regulation improves. (448-449)

LANGUAGE

- Word definitions emphasize synonyms and categorical relations. (462)
- Grasps double meanings of words, as reflected in comprehension of metaphors and humor. (462)
- Continues to master complex grammatical constructions. (462-463)



- Adapts messages to the needs of listeners in challenging communicative situations. (463)
- Develops more refined conversational strategies. (463)
- Narratives increase in organization, detail, and expressiveness. (463)

EMOTIONAL/SOCIAL

- Me-self is more refined; self-concept includes positive and negative personality traits. (483)
- Self-esteem tends to rise. (485)
- Distinguishes ability, effort, and luck in attributions for success and failure. (486-487)
- Empathic responding extends to general life conditions. (490)



- Shifts adaptively between problem-centered and emotion-centered strategies in regulating emotion. (490-491)
- Can "step into another's shoes" and view the self from that person's perspective; later, can view the relationship between self and other from the perspective of a third, impartial party. (491)

- Clarifies and links moral rules and social conventions. (493)
- Understanding of individual rights expands. (494)



- Peer groups emerge. (498)
- Friendships become more selective and are based on mutual trust. (499)
- Becomes aware of more gender stereotypes, including personality traits and achievement, but has a flexible appreciation of what males and females can do. (503-504)
- Gender identity expands to include self-evaluations of typicality, contentedness, and pressure to conform. (504-505)
- Sibling rivalry tends to increase. (507)



Note: Numbers in parentheses indicate the page or pages on which each milestone is discussed.

Milestones

Development in Adolescence



Early adolescence 11–14

- Becomes more idealistic and critical. (573)
- Metacognition and self-regulation continue to improve. (574)
- Evaluates vocational options in terms of interests. (583)

LANGUAGE

- Metalinguistic awareness improves further. (577)
- Vocabulary continues to increase as abstract words are added. (577–578)
- Grasps irony, sarcasm, and figurative language, such as proverbs. (577–578)
- Understanding and use of complex grammatical constructions improves further. (578)
- Capacity to adjust speech style, depending on the situation, improves. (578)

PHYSICAL

- If a girl, reaches peak of growth spurt. (535)
- If a girl, adds more body fat than muscle. (532)
- If a girl, starts to menstruate. (535)
- If a boy, begins growth spurt. (535)
- If a boy, starts to ejaculate seminal fluid. (535–536)
- Likely is aware of sexual orientation. (551)
- If a girl, motor performance gradually increases and then levels off. (533–534)
- Synaptic growth and myelination of neural fibers accelerate, especially between the frontal lobes and other brain areas, supporting diverse cognitive skills. (537)
- Neurons in the brain become more responsive to excitatory neurotransmitters, heightening stress response and novelty-seeking. (538)
- Sleep “phase delay” strengthens. (538)

COGNITIVE

- Shows gains in hypothetico-deductive reasoning and propositional thought. (566–567)
- Improves in scientific reasoning—coordinating theory with evidence—on complex, multivariable tasks. (569–570)
- Becomes more self-conscious and self-focused. (571–572)



- Friendships decline in number and are based on intimacy and loyalty. (620)
- Peer groups become organized around same-sex cliques. (623)
- Cliques with similar values form crowds. (623)
- Conformity to peer pressure increases. (625)



Middle adolescence 14–16

PHYSICAL

- If a girl, completes growth spurt. (535)
- If a boy, reaches peak of growth spurt. (535)
- If a boy, voice deepens. (535)
- If a boy, adds muscle while body fat declines. (533)
- May have had sexual intercourse. (547–550)
- If a boy, motor performance improves dramatically. (533–534)

COGNITIVE

- Continues to improve in hypothetico-deductive reasoning and propositional thought. (566–567)
- Continues to improve in scientific reasoning, following a similar sequential order on different types of tasks. (569–570)
- Becomes less self-conscious and self-focused. (571–572)
- Improves in everyday decision making. (573)
- Evaluates vocational options in terms of interests, abilities, and values. (583)

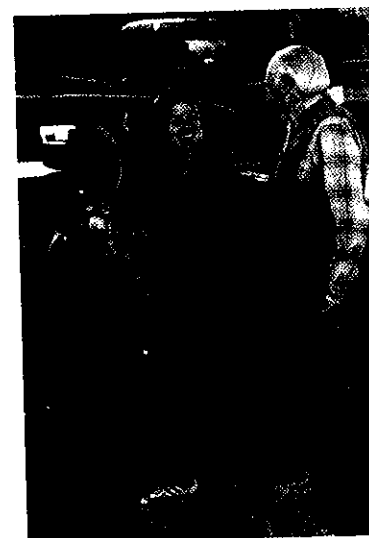


LANGUAGE

- Can read and interpret adult literary works. (578)
- More effectively analyzes and corrects grammar. (578)

EMOTIONAL/SOCIAL

- Combines features of the self into an organized self-concept. (598)
- Self-esteem differentiates further and tends to rise. (600)
- In forming an identity, likely begins to change from “lower” to “higher” statuses. (600–602)
- Is likely to engage in societal perspective taking. (608)
- Increasingly emphasizes ideal reciprocity and societal laws as the basis for resolving moral dilemmas. (611)

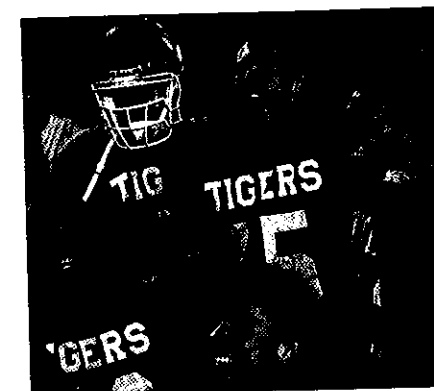


- Engages in more subtle reasoning about conflicts between moral, social-conventional, and personal-choice issues. (610–611)
- Gender intensification declines. (615)
- Mixed-sex cliques are common. (623)
- Has probably started dating. (624)
- Conformity to peer pressure may decline. (625)

Late adolescence 16–18

PHYSICAL

- If a boy, completes growth spurt. (535)
- If a boy, gains in motor performance continue. (534)



COGNITIVE

- Continues to improve in metacognition, scientific reasoning, and decision making. (537)
- Narrows vocational options. (589)



EMOTIONAL/SOCIAL

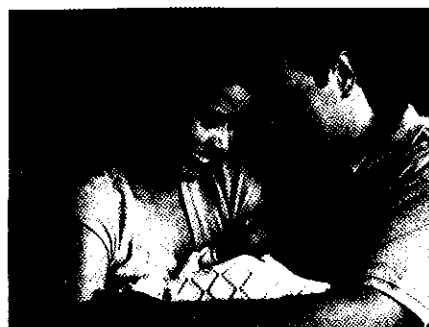
- Self-concept emphasizes personal and moral standards. (599)
- Continues to construct an identity. (601)
- Continues to advance in maturity of moral reasoning. (607)
- Cliques and crowds decline in importance. (623)
- Romantic ties last longer. (624)



Note: Numbers in parentheses indicate the page or pages on which each milestone is discussed.

Milestones

Development in Infancy and Toddlerhood



Birth–6 months

PHYSICAL

- Height and weight increase rapidly. (166)
- Newborn reflexes decline. (149–151)
- First tooth erupts. (168)
- Synaptic growth and myelination of neural fibers in the brain occur rapidly. (172)
- Sleep is increasingly organized into a night–day schedule. (176)
- Responses can be classically and operantly conditioned. (183–184)
- Habituates to unchanging stimuli; recovers to novel stimuli. (185)
- Holds head up, rolls over, and grasps objects. (188)
- Shows sensitivity to motion and binocular depth cues. (196–197)
- Perceives auditory and visual stimuli as organized patterns. (202)
- Recognizes and prefers human facial pattern; recognizes features of mother's face. (202–203)

COGNITIVE

- Engages in immediate and deferred imitation of adults' facial expressions. (214–215)
- Repeats chance behaviors that lead to interesting results. (210)
- Has some awareness of many physical properties (including object permanence) and basic numerical knowledge. (212)
- Attention becomes more efficient and flexible. (221)
- Recognition memory for visual events improves. (222)

- Memory is context-dependent. (222)
- Forms perceptual categories based on objects' similar features. (225)

LANGUAGE

- Engages in cooing and, by the end of this period, babbling. (240)
- Begins to establish joint attention with caregiver, who labels objects and events. (241)

EMOTIONAL/SOCIAL

- Social smile and laughter emerge. (255)
- Matches feeling tone of caregiver in face-to-face communication and, later, expects matched responses. (256)
- Emotional expressions become well organized and meaningfully related to environmental events. (257)



- Regulates emotion by shifting attention and self-soothing. (258)
- Responds differently to caregiver than to a stranger. (269)
- Shows early signs of self-awareness. (283)

7–12 months

PHYSICAL

- Approaches adultlike sleep–wake schedule. (176)
- Sits alone, crawls, and walks. (188)
- Shows refined pincer grasp. (191)

- “Screens out” sounds not used in own language; perceives meaningful speech. (194)
- Develops sensitivity to pictorial depth cues. (196)
- Relies on shape, color, and texture to distinguish objects from their surroundings. (201)
- Becomes increasingly adept at intermodal perception. (202)

COGNITIVE

- Engages in intentional, or goal-directed, behavior. (210)
- Finds an object hidden in an initial location. (211)
- Engages in deferred imitation of adults' actions with objects. (214)
- Solves simple problems by analogy. (215)
- Memory becomes increasingly context-free. (223)
- Categorizes objects conceptually, by similar function and behavior. (225)

LANGUAGE

- Babbling expands to include sounds of spoken languages and patterns of the child's language community. (241)
- Joint attention with caregiver becomes more accurate. (241)
- Takes turns in games, such as pat-a-cake and peekaboo. (241)
- Comprehends some word meanings. (242)
- Uses preverbal gestures (showing, pointing) to influence others' behavior. (242)



- Around 1 year, says first words. (242)

EMOTIONAL/SOCIAL

- Smiling and laughter increase in frequency and expressiveness. (255)



- Anger and fear increase in frequency and intensity. (255–256)
- Stranger anxiety and separation anxiety appear. (256, 269–270)
- Uses caregiver as a secure base for exploration. (270)
- Shows “clear-cut” attachment to a familiar caregiver. (269)
- Detects the meaning of others' emotional expressions and engages in social referencing. (269)
- Regulates emotion by approaching and retreating from stimulation. (258)

13–18 months

PHYSICAL

- Height and weight gain are rapid, but not as great as in first year; toddlers slim down. (166–167)
- Walking is better coordinated. (188)
- Manipulates small objects with improved coordination. (191, 210)



COGNITIVE

- Explores the properties of objects by deliberately acting on them in novel ways. (211)
- Searches in several locations for a hidden object. (211)
- Imitates actions across a change in context—for example, from child care to home. (215)
- Sustained attention improves. (222)
- Recall memory for people, places, objects, and actions improves. (223)
- Sorts objects into categories. (225)

LANGUAGE

- Steadily adds to vocabulary. (242)
- Comprehends 50 words at 13 months; produces 50 words at 18 months. (243)



EMOTIONAL/SOCIAL

- Joins in play with familiar adults, siblings, and peers. (280–281)
- Recognizes image of self in mirror. (283–284)
- Begins to realize that others' emotional reactions may differ from one's own. (284)
- Uses social referencing to better evaluate events and understand emotions of the same valence. (284)
- Shows signs of empathy. (284)
- Complies with simple directives. (285)

19–24 months

PHYSICAL

- Has 20 teeth. (168)
- Brain reaches 70 percent of its adult weight. (170)
- Jumps and walks on tiptoe. (188)
- Manipulates small objects with good coordination. (191, 210)

COGNITIVE

- Solves simple problems suddenly, through representation. (211)



- Finds a hidden object that has been moved while out of sight. (211)
- Engages in make-believe play, using simple actions. (212)
- Engages in deferred imitation of actions an adult tries to produce, even if not fully realized. (215)
- Sorts objects into categories more effectively. (226)

LANGUAGE

- Produces about 200 words. (243)
- Combines two words. (243)

EMOTIONAL/SOCIAL

- Self-conscious emotions (shame, embarrassment, guilt, and pride) emerge. (257)
- Acquires an emotion vocabulary for talking about feelings, aiding emotional self-regulation. (259)
- Begins to tolerate caregiver's absences more easily; separation anxiety declines. (270)
- Starts to use words to influence a playmate's behavior. (280)
- Self-recognition is well under way; identifies self in photos. (284)
- Categorizes self and others on the basis of age, sex, physical characteristics, goodness and badness, and competencies. (285)
- Shows gender-stereotyped toy preferences. (285)
- Self-control emerges. (285)

Note: Numbers in parentheses indicate the page or pages on which each milestone is discussed.